SINGER
29K62

INSTRUCTIONS

FOR USING AND ADJUSTING

SINGER

SEWING MACHINE

No. 29K62

THE SINGER MANUFACTURING CO.

• 29K62 •

A brass plate, similar in size and shape to the above illustration, is fastened upon each Singer Sewing Machine made for manufacturing purposes. This plate is usually at the right hand upon the arm, and bears the two numbers that designate the machine. As Class 29K Machines are furnished in a number of varieties, each of which differs in detail from the others, it is necessary when ordering parts or supplies (unless the correct number of each part is known) to state the class and variety of the machine, as shown on the brass plate, and so prevent misunderstanding and delay in filling orders.

Speed of the Machine

This should be regulated to suit the class of work being done. For thick work, patching and mending, put the driving belt upon the larger pulley of the machine and the smaller pulley of the stand, as this will give increased penetrating power. For light work, put the belt upon the smaller pulley of the machine and the larger pulley of the stand.

NOTE.—Machines are sent from the factory threaded, and the operator should note carefully the manner in which this is done before removing the thread from the needle.

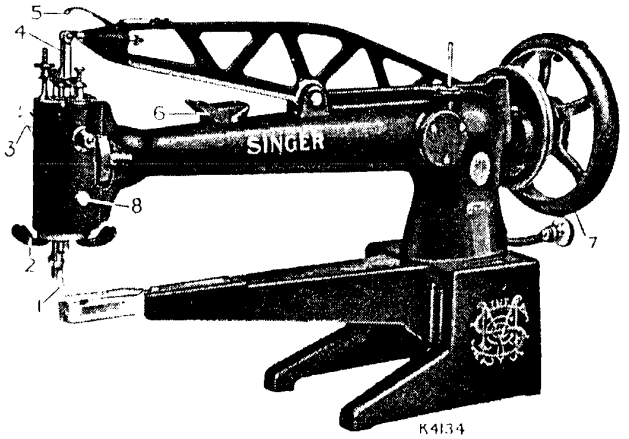


Fig. 1.

To Operate the Machine

(See Fig. 1)

Raise the feeding foot (1) by means of the lifting lever (3) and place both feet upon the treadle. Turn the balance wheel (7) when its handle is at the top, from left to right; this will start the machine. Allow the feet to move freely with the motion of the treadle, continuing to do this until a regular and easy movement is acquired, and you are able to re-start the machine without the balance wheel turning in the wrong direction.

When familiar with the working movement, place a piece of cloth or leather under the feeding foot (1); then lower the latter, by means of the lifting lever (3), and operate the machine until you have become accustomed to guiding the material.

The material is moved along by the feeding foot only, and the direction of the stitching can be changed, as desired, by turning the revolving wings (2). To make a curved line of stitching, operate the machine slowly and, without turning the work, turn the revolving wings sufficiently to produce the desired curve.

The feeding foot rises between each stitch while the needle is in the material, the needle serving as a pivot upon which the material can be turned in any direction. When desired, the feeding foot may be fixed to work in a straight line, in any direction, by tightening the knurled set screw (8, Fig. 1) in front of the machine head. **Never turn the work or alter the direction of the feed while the foot is pressing on the material, as this may cause missed stitches and damage the surface of the work.**

To Ensure Perfect Action of the Machine

The balance wheel must always be turned from the top towards the operator, but if fitted at the side of the machine, it must turn over from left to right or clockwise.

The feeding foot must be raised, except when sewing.

Do not work the machine with the shuttle and needle threaded, unless there is material under the feeding foot.

Avoid pulling the material when stitching, as this may deflect the needle and so cause it to strike on the needle plate and break.

To Set the Needle

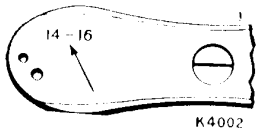


Fig. 2.

Showing Needle Sizes stamped on Needle Plate

There are two double-end needle plates furnished with the machine which are marked for the sizes of needles which each will accommodate. See that the proper plate for the needle to be used is applied to the machine and in the correct position.

Raise the needle bar (4, Fig. 1) to its highest, loosen the screw (B, Fig. 3) and insert the shank of the needle up into the needle clamp as far as it will go, with the long groove of the needle to the left, and its eye directly in line with the arm of the machine. Tighten the screw (B). Loosen the screw (A) and move the clamp to right or left until the needle passes through the centre of the hole in the needle plate, then tighten screw (A).

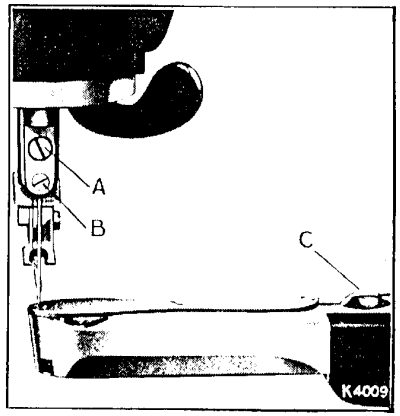


Fig. 3.

Caution : Always be sure to use a straight needle.

To Thread the Needle for Stitching

(See Fig. 4)

Place a reel of thread on the spool pin on the arm of the machine, so that the thread will draw from the back. Raise the wire guide in the oil cup (6, Fig. 1) on the top of the arm and, after passing the thread under the wire guide, press it back into position. Then pass the thread at the back of the pin, which is near the tension discs on the top of the machine head, from back to front and right to left between the tension discs, into the wire thread eyelet, and up and from front to back through the hole in the end of the take-up lever (5, Fig. 1). Draw about 10 inches of thread and insert the end into the slit in the end of the threading wire supplied with the machine. Now pass it from the back of the lever (5, Fig. 1) down through the hole in the centre of the needle bar, and from left to right through the eye of the needle, leaving an end of thread 3 or 4 inches long with which to commence sewing.

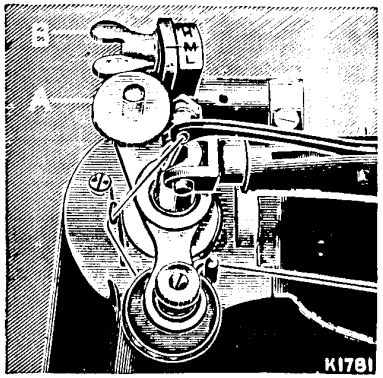


Fig. 4.

To Thread the Needle for Darning

(See Fig. 5)

Place a reel of thread upon the spool pin on the arm of the machine, so that the thread will draw from the back.

Raise the wire guide in the oil cup (6, Fig. 1) on the top of the arm and, after passing the thread under the wire guide, press it back into position. Then pass the thread over the pin near the tension discs in front of the arm (see Fig. 5), from right to left under and between the tension discs, up into the wire eyelet on top of the arm of the machine, and from front to back through the hole in the end of the take up lever (5, Fig. 1). Draw about 10 inches of thread and insert the end into the slit in the end of the threading wire supplied with the machine; pass it from the back of the lever (5, Fig. 1) down through the hole in the centre of the needle bar, and from left to right through the eye of the needle, leaving an end of thread 3 or 4 inches long with which to commence sewing.

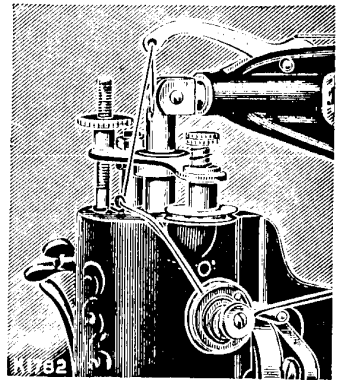


Fig. 5.

To Remove the Bobbin

Raise the needle bar to its highest point and lift the feeding foot (1, Fig. 1) by means of the lifter (3, Fig. 1). Press down the lever (C, Fig. 3) and swing the needle plate round. Turn the balance wheel until the point of the shuttle is nearest you, then lift out the shuttle with the thumb and fore-finger; turn it over and the bobbin will drop out.

Balance Wheel Stop Motion

(See Fig. 6)

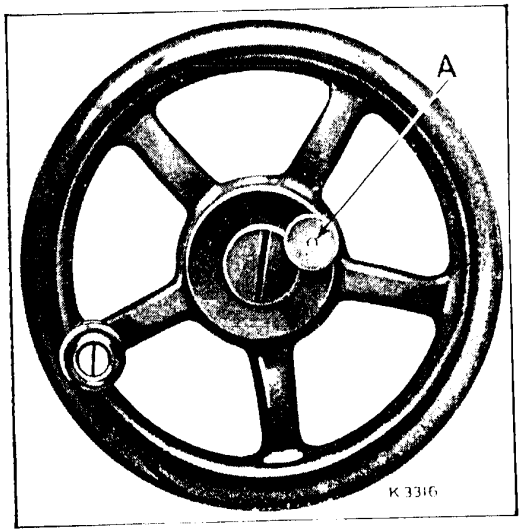


Fig. 6.

This device allows the balance wheel to run free so that bobbins may be wound by hand without operating the stitching mechanism. To loosen the wheel draw out the plunger (A) and turn its knurled head slightly to the left or right. The wheel will then turn in either direction without operating the machine. When it is desired to operate the machine, turn the plunger head slightly and at the same time turn the wheel slowly to allow the plunger to engage in the hole in the inner disc.

To Wind the Bobbin

(See Fig. 7)

Loosen the balance wheel, as described on page 8. Place a reel of thread on the spool pin and pass the end of thread into the hole in the centre of the bobbin. Then press the bobbin, as far as it will go, on to the bobbin winder spindle, as shown in Fig. 7, **taking care that the slot in the side of the bobbin is to the inside.**

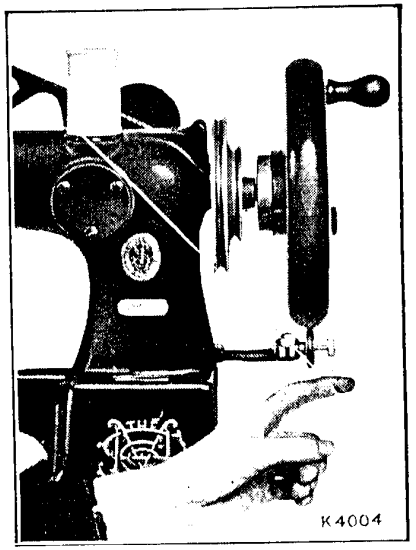


Fig. 7.

Loosen the thumb screw on the bobbin winder, and lower it until the rubber ring presses against the balance wheel; then tighten the thumb screw.

Turn the balance wheel over towards you, as when sewing, at the same time guiding the thread with the finger, as shown in Fig. 7. When the bobbin is sufficiently full, remove it from the spindle and pass the end of the thread into the slot in its edge. Loosen the thumb screw on the winder, and move it up so that the rubber ring is out of contact with the balance wheel; then tighten the screw.

To Thread the Shuttle

Having removed the bobbin from the winder, take it between the thumb and fore-finger of the right hand, the slot in the edge of the bobbin being at the bottom, and allow two or three inches of thread to hang free from the bobbin. Hold the shuttle between the thumb and fore-finger of the left hand, with the wide opening uppermost, and, letting the end of thread pass through the shuttle (see Fig. 8), drop the bobbin into it.

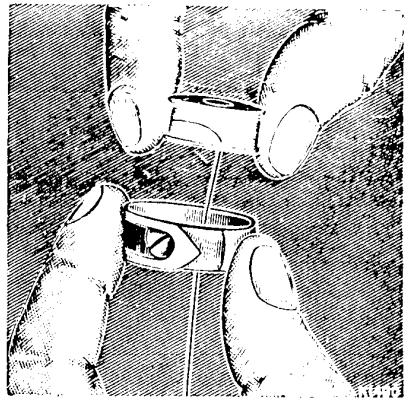


Fig. 8.

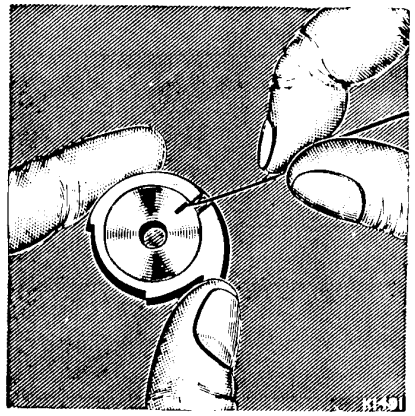


Fig. 9.

Turn the shuttle over in the fingers, at the same time holding the bobbin in it, and draw the thread into the slot in the edge of the shuttle (see

To Thread the Shuttle continued

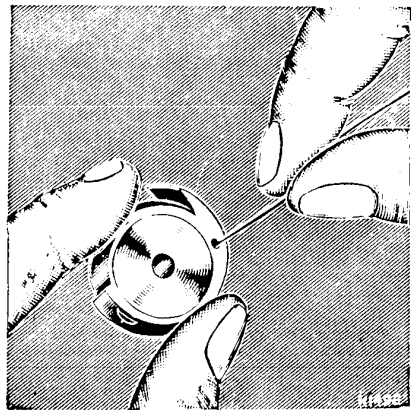


Fig. 10.

Fig. 9) and under the end of the tension spring. Then pass the end of thread up through the small hole which is in the upper edge of the shuttle (see Fig. 10).

To Replace the Shuttle

After threading the shuttle, turn the balance wheel until the upright part of the shuttle carrier is to the right. Then, with the point of the shuttle nearest you, and pointing towards the right, drop it and the bobbin into the recess provided for them, as shown in Fig. 11. Raise the needle bar to its highest point, press the lever (C), and turn back the needle plate to its sewing position.

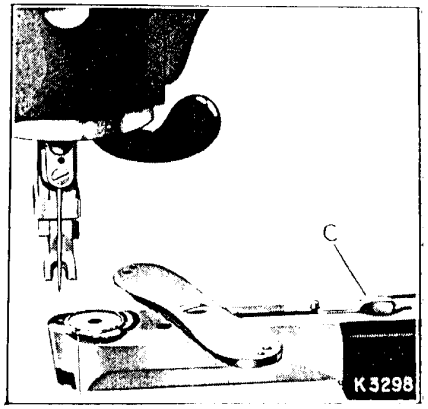


Fig. 11

To Prepare for Sewing

With the left hand hold the end of the needle thread, leaving it quite slack from the hand to the needle. Turn the balance wheel from you until the needle moves down and up again to its highest point, thus catching the under thread. Then pull the end of the thread you are holding and the shuttle thread will be brought up with it through the hole in the needle plate, as shown in Fig. 12. Lay both ends back under the feeding foot.

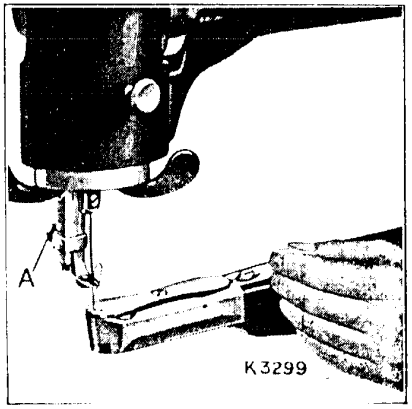


Fig. 12.

To Commence Sewing

Place the material beneath the feeding foot, lower the foot upon it, and operate the machine by turning the balance wheel from the top to the right.

NOTE. Do not try to help the feeding of the work by pulling the material, as this may deflect the needle and cause it to break. The machine feeds without any assistance.

To Remove the Work

Raise the needle bar to its highest point by turning the balance wheel, lift the feeding foot by means of the lifting lever (3, Fig. 1), and draw the material backward about 3 inches; then cut the threads close to the work. Leave both ends of thread under the feeding foot.

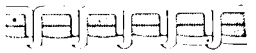
To Regulate the Tensions

Correct Stitch.

For ordinary stitching, the tension on the needle and shuttle threads should be equal, and just sufficiently strong to lock both threads in the centre of the work, as shown in the above illustration.

If either tension is stronger than the other, imperfect stitching will be the result, thus: -

Needle thread tension too strong.



Needle thread tension too weak.

A correct stitch can usually be obtained by varying the tension on the needle thread (see Fig. 13). To increase the tension, turn the thumb nut in the direction illustrated by the arrow. To lessen the tension, turn the nut in the opposite direction.

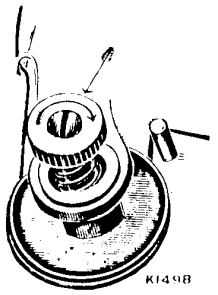


Fig. 13.

All machines are correctly adjusted before leaving the factory, and it is therefore seldom necessary to alter the shuttle tension. Should it become necessary to do so, however, tighten the small screw (see Fig. 8) in the end of the tension spring in the side of the shuttle to increase the tension, or loosen the screw slightly to lessen the tension.

NOTE. Care should be taken to use thread and needles relative to each other, as per table on inside of back cover.

To Regulate the Take-up Lever with Screw Adjustment

(See Fig. 14)

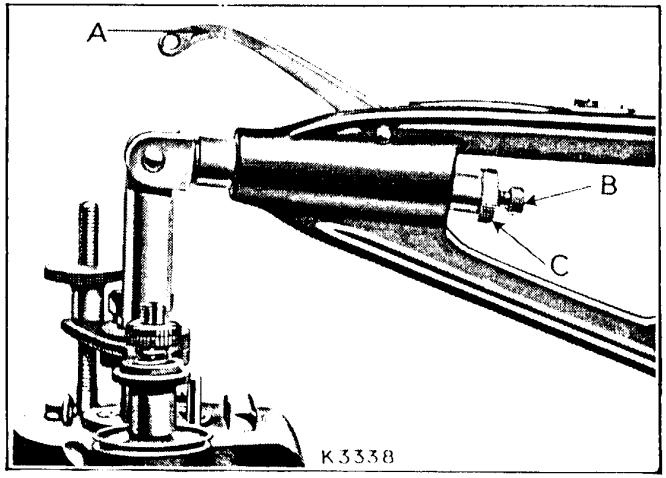


Fig. 14.

The travel of the lever (A) is regulated by means of the screw (B) which is held in position by the lock nut (C). When sent out from the factory the machine is adjusted for average sewing conditions.

If desired to alter the travel of the lever when handling heavy materials and threads, loosen the lock nut by giving it a turn to the left while the screw is held with a screw driver.

Subsequently, by turning the screw to the right, the travel of the lever can be reduced, while turning the screw to the left will increase the travel. When the required adjustment has been made, the screw (B) should be firmly held in position by tightening the lock nut.

All machines sent out from the factory are so adjusted that they will give satisfactory results on a general range of materials. Before any adjustment is made to the travel of the take-up lever, the needle bar should be raised to its maximum height.

If difficulty is experienced with the breaking of thread when sewing materials of more than average thickness, the trouble can be overcome by increasing the supply of needle thread. In order to obtain this, the balance wheel should be turned until the needle bar is at its highest position. Then loosen the lock nut (C) and turn the adjusting screw (B) to the right until the thread take-up lever (A) can be pressed down by hand to approximately $\frac{3}{16}''$ above the top of the needle bar. When this adjustment has been made, the screw (B) must be held firmly in position by tightening the lock nut (C).

To readjust the thread take-up lever (A) for average sewing conditions, raise the needle bar to its maximum, loosen the lock nut (C) and turn the adjusting screw (B) to the left until the thread take-up lever can be pressed down by hand so that it almost touches the top of the needle bar. Then retighten the lock nut (C). Unless this readjustment is made it will be difficult to obtain a uniform tight stitch in light-weight material.

To Alter the length of Stitch

The length of stitch is regulated by the stitch regulator, which is held in position by a thumb screw at the back of the feeding foot bar. Loosen the thumb screw (A, Fig. 12) and move the regulator so that the arrow points to the number of stitches it is desired to make to the inch. The thumb screw must then be tightened.

To Change the Pressure on the Material

The pressure on the material is regulated by the knurled nut (A, Fig. 4). Tighten the nut to increase the pressure, or loosen it to reduce the pressure. Heavier pressure is required for leather work than for sewing cloth or cotton materials, but it should be only heavy enough to enable the feed to move the work along evenly.

To Turn a Corner

Stop the machine and turn the balance wheel by hand from you until the feeding foot rises. Then turn the work, as desired, using the needle as a pivot.

To Regulate the Automatic Lift of the Feeding Foot

While the machine is in operation, the feeding foot rises from the surface of the material after it has moved the work forward; then it moves towards the needle and descends again upon the fabric. It is advisable that the lift of the foot should be only sufficient to clear the thickest part of the work in hand. To adjust the lift of the foot, first raise the

feeding foot by means of the lifting lever (3, Fig. 1); then loosen the wing screw (B, Fig. 4) at the back of the machine and move the screw towards you to increase the lift of the foot, or in the opposite direction to reduce it. When the desired height of lift is obtained, tighten the wing screw.

Important. There is a tendency for fluff and dirt to gather behind the thread retaining spring, which is fitted to the needle bar near its bottom end, and this, if allowed to remain, may cause mis-stitching of the needle thread. To remove this dirt, pass a piece of tape or thread between the spring and the needle bar, working it backwards and forwards until the spring is cleaned. Care must be taken not to bend the spring away from the bar or permanent damage may be done to it.

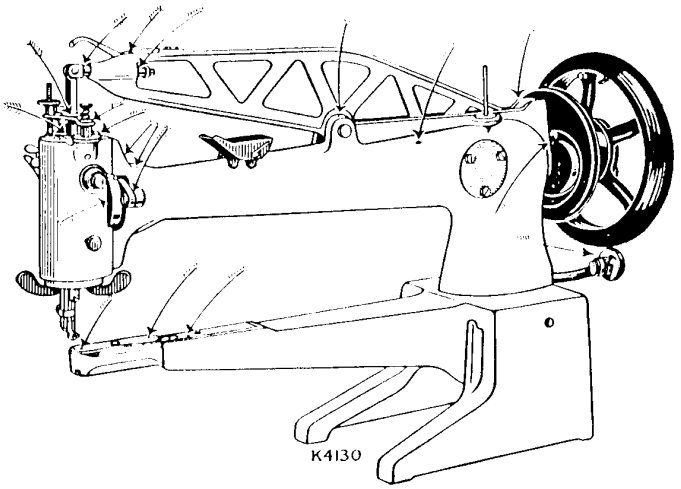


Fig. 15.

To Oil the Machine and Stand

To ensure easy and quiet working of the machine, it is necessary that all moving parts in contact with each other should always be covered with a film of oil and not allowed to become dry. A drop of oil is sufficient at any place. The machine should be oiled at the places indicated by arrow points in Figs. 15 and 16, and a little oil should be rubbed over the face of the shuttle race.

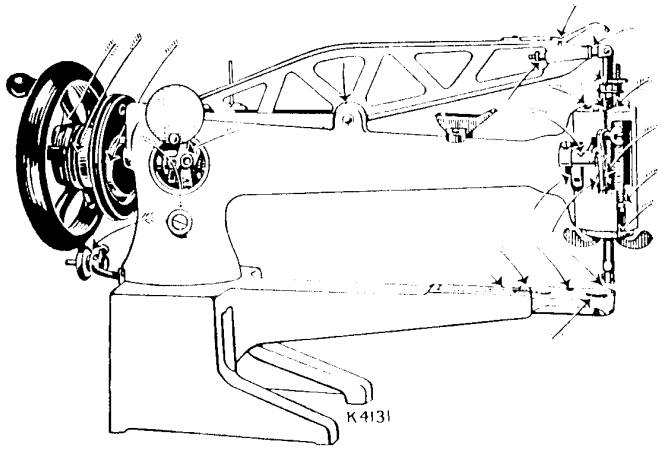


Fig. 16.

After oiling, run the machine for a few minutes to work the oil into the bearings. If the machine is in constant use, it should be oiled daily.

To oil the stand, apply a drop of oil to the centres upon which the band wheel and treadle work, and to both ends of the pitman rod which connects the treadle with the band wheel.

Always use the best oil, as sold only at Singer Shops. Inferior oil clogs the bearings, prevents efficient working, and causes rapid wear of the mechanism.

HINTS

Machine Working Heavily. If, after standing idle for some time, the machine runs heavily, use a little paraffin in place of oil. Then run the machine rapidly to clean the bearings, thereafter oiling with Singer superior machine oil. If it still runs heavily, it is certain that some bearing has been overlooked in cleaning and oiling.

The Belt. See that the belt is not too tight; it should be just tight enough not to slip. If too loose, shorten the belt and rejoin.

To Avoid Breaking Needles. See that the feeding foot is securely fastened by the thumb screw. Do not sew heavy seams or very thick material with a too fine needle. A large needle, and thread to correspond, should be used on heavy work (see table on inside of back cover).

See that the needle is not bent, and avoid pulling the material when stitching; either will cause the needle to strike on the needle plate and break.

Breaking of Upper Thread.—If the upper thread breaks, it may be caused by:—

Improper threading of the machine.

Tension being too tight.

The thread being too coarse for the size of the needle.

The needle being bent, having a blunt point, or being set incorrectly.

HINTS—continued

Breaking of Under Thread.—If the under thread breaks, it may be caused by:—

Improper threading of shuttle.

Tension being too tight.

Skipping of Stitches.—This may be caused by the needle being inaccurately set into the needle clamp, or by the needle being blunt or bent.

Remove any dirt or fluff that may be behind the thread retaining spring. (*See note on page 17.*)

Examine the feeding foot occasionally and remove from the teeth any dirt or dressing which may be found, as this, if allowed to accumulate, will prevent regular feeding.

Working on old, hard leather. When working on old, hard leather it is advisable to soften it with oil, to use a coarse needle, and to make a long stitch, so as to prevent splitting.

INSTRUCTIONS

FOR

ADJUSTERS AND MECHANICS

To Examine and Remove the Parts from the Rack Box and Re-assemble Them

(See Figs. 17 and 18)

Remove the machine head from the treadle stand, or power bench, by taking out the four screws. The head should now be tipped endwise with the underside of the horn facing you. Withdraw the two screws (F) and remove the cover plate so as to expose the parts in the rack box (see Fig. 18), any or all of which can be removed without disconnecting the rack box from the machine. To take out the shuttle carrier, remove the small set screw in the shuttle carrier pinion by inserting a small screw driver through the groove (G) at the side of the rack box. The shuttle carrier can then be pressed through the pinion. To remove the long rack (J) insert the screw driver through the hole (D) (see Fig. 19) and take out the screw. Before, however, withdrawing the rack remove the pinion (L); then grip the rack and draw it in a straight away manner towards the pulley end of the machine. The short rack (K) and shuttle driver pinion (H) can be removed without difficulty. When replacing the parts, care must be taken to see that the gears and racks are correctly enmeshed, as shown in the illustration.

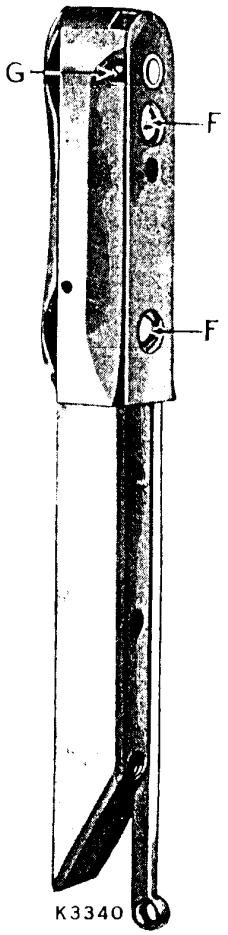


Fig. 17.

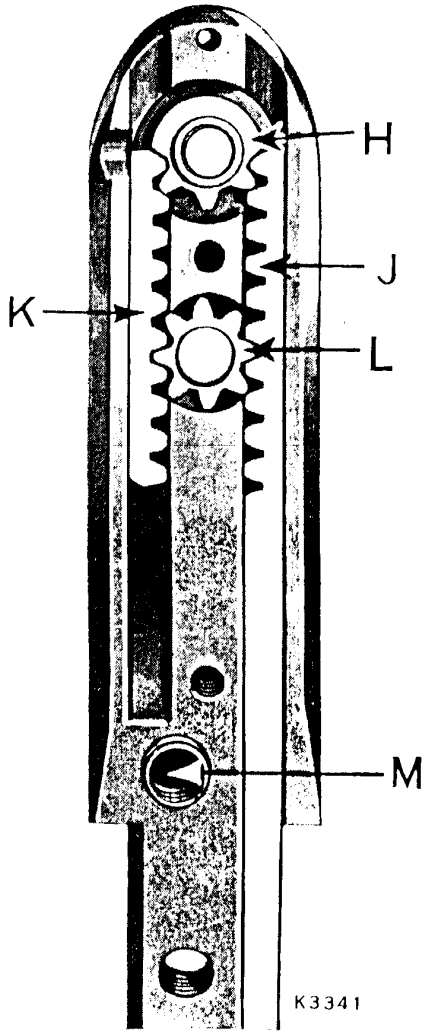


Fig. 18.

Instructions for the Removal of the Rack Box

(See Fig. 19)

If for any reason it is necessary to remove the rack box from the machine, proceed in the following manner. Remove the machine head from its treadle stand or power bench and tip it up as instructed on the previous page. Then turn the balance wheel until the connecting rod hinge screw No. 89 (E) comes opposite the hole (D) in the lower arm. Insert a screw driver through the hole (D) and remove the screw. Slightly loosen the two screws (B) by giving them a half turn with a screw driver. Then drive out the taper pin (C), using a $\frac{3}{16}''$ punch and hammer, and take out the two screws (B). The machine should now be replaced on its feet and the horn will then come away if pulled in a horizontal direction.

On no account raise the front of the horn or the end of the long rack may be damaged.

When re-assembling the box to the machine, be sure that the taper pin is driven home before finally tightening the two screws.

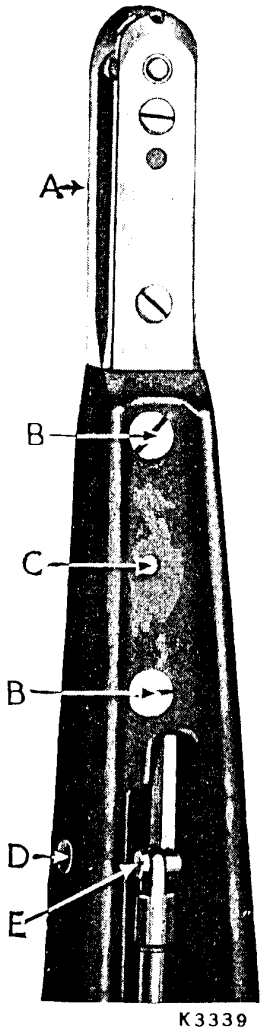


Fig. 19.

Correct Position of the Eccentric Screw which connects the Shuttle Driving Lever and the Rack Connecting Rod

The head of this screw stud carries a small cut, and a line is marked on the end of the Shuttle-driving Lever Connecting Rod. These two markings should approximately coincide when the stud head is opposite the screw driver hole at the side of the machine base.

To time the shuttle, turn the Eccentric Stud until the leading edge of the Shuttle Carrier moves at each oscillation to a position approximately one-third of the distance across the needle slot.